

REMARKS/ARGUMENTS

The amendments set out above and the following remarks are believed responsive to the points raised by the Office Action dated May 2, 2007. In view of the amendments set out above and the following remarks, reconsideration is respectfully requested.

The Pending Claims

Claims 3, 12, 13, and 31 have been canceled, and claims 1, 2, 4-11, 14-30, 32, and 33 remain pending, wherein claims 19-30 have been withdrawn from consideration. Claim 34 is added by this amendment.

Claims 1, 2, 4-11, and 14-18 have been amended, and claim 34 has been added, to describe the invention more clearly. No new matter has been added, the basis for the amended claim language may be found within the original specification, claims and drawings.

Claim 1 is supported at, for example, paragraphs [0038] [0045], [0046], and the Examples. Claim 6 is supported at, for example, paragraph [0038], [0045], [0057], and the Examples. Claim 34 is supported at, for example, paragraph [0057]. Entry of the above is respectfully requested.

The Office Action

For convenience, the following remarks will address the rejections in the same order they were raised in the Office Action.

Claims 6, 11, and 18 were rejected under 35 USC 102 as anticipated by, or, in the alternative, under 35 USC 103(a) as obvious over U.S. Patent No. 5,198,505 to Sipsas et al. (hereinafter referred to as "Sipsas et al.").

Claims 1-18 and 31-33 were rejected under 35 USC 103(a) as being unpatentable over Sipsas et al.; U.S. Patent No. 5,053,132 to Sirkar et al. (hereinafter referred to as "Sirkar et al."); U.S. Patent No. 5,130,024 to Fujimoto et al. (hereinafter referred to as "Fujimoto et al."); U.S. Patent No. 5,718,957 to Yokoe et al. (hereinafter referred to as "Yokoe et al.");

U.S. Patent No. 5,158,680 to Kawai et al. (hereinafter referred to as "Kawai et al."); U.S. Patent No. 5,437,900 to Kuzowski et al. (hereinafter referred to as "Kuzowski et al."); and/or U.S. Patent No. 3,935,096 to Eng et al. (hereinafter referred to as "Eng et al.").

Each of these rejections is separately and respectfully traversed.

Since the independent claims have been amended to recite a PTFE membrane, it is submitted that the rejection of claims 6, 11, and 18 under 35 USC 102 as anticipated by Sipsas et al. has been obviated for at least this reason.

As an initial point, while the Office Action refers to heat treatment of PVDF in Sipsas as the basis for a conclusion that it would be obvious that PTFE would also become hydrophilic by the heat treatment, this is incorrect. Sipsas does not teach that heat treatment renders a PVDF membrane hydrophilic. Rather, as set forth in Sipsas, e.g., col. 2, lines 42-50, Sipsas emphasizes that heating before a *separate* hydrophilic treatment alters the crystallinity of the PVDF membrane. The membrane disclosed by Sipsas must be made hydrophilic by another process, i.e., not by the disclosed heat treatment.

Pending independent claim 1 recites a CWST "of at least about 40 dynes/cm (.40 erg/mm²) through the thickness and bulk" of the microporous PTFE membrane. Pending independent claim 6 recites a CWST "of at least 26 dynes/cm (.26 erg/mm²) through the thickness" of the microporous PTFE membrane, "wherein the microporous PTFE membrane is free of a coating." None of the cited references, i.e., Sipsas et al., Sirkar et al., Fujimoto et al., Yokoe et al., Kawai et al., Kuzowski et al., and/or Eng et al., suggests such membranes.

For example, Kuzowski et al. merely teaches surface modification (using rf gas plasma; e.g., col. 7, line 50), and provides a measurement relating to the surface modification (water droplet roll-off angle; e.g., col. 8, lines 21-29). More importantly, however, Kuzowski states that the treatment increases hydrophobicity (i.e., decreases the CWST below the untreated value, the untreated value already being less than the CWST values in any of the pending claims) and states that even after "prolonged treatment," there is a limit to the "maximum achievable depth of fibril removal" (col. 8, lines 39-42; *see also*, lines 43-46). Thus, whatever CWST Kuzowski achieves, it is not either a CWST "of at least about 40 dynes/cm (.40 erg/mm²) through the thickness and bulk" of the microporous PTFE

membrane, or a CWST “of at least 26 dynes/cm (.26 erg/mm²) through the thickness” of the microporous PTFE membrane

Sirkar et al. also merely teaches surface modification, e.g., col. 4, lines 50-60, wherein it is emphasized that only “one side” that is modified, not the entire membrane. Each of the specific treatments set forth in this section modifies the surface, not the thickness (or thickness and bulk), of the membrane through one surface to the other.

Yokoe et al. fails to even disclose a microporous membrane. In fact, Yokoe et al., being directed to a fuel hose and thus would be impermeable to gasoline, certainly does not lead one to a microporous membrane, i.e., a membrane that could allow gasoline to pass therethrough. Moreover, Yokoe et al., like other references cited in the Office Action, merely teaches surface modification (e.g., col. 4, lines 10-25).

Eng et al. also fails to disclose a microporous membrane, and, in fact, fails to even disclose PTFE. Moreover, despite the statement in the Office Action, while Eng refers to Nafion (e.g., col. 5, lines 4-8) the disclosed Nafion membranes are not hydrophilic.

According to the Office Action, “Fujimoto teaches treating PTFE with perfluoroalkyl sulfonated to make it hydrophilic” and “Kawai teaches making PTFE hydrophilic by immersing it in alcohols, etc.” However, neither Fujimoto et al. nor Kawai et al. teaches or suggests a microporous PTFE membrane having a CWST of at least about 40 dynes/cm (.40 erg/mm²) through the thickness and bulk of the PTFE membrane, and neither Fujimoto et al. nor Kawai et al. teaches or suggests a microporous PTFE membrane having a CWST of at 26 dynes/cm (.26 erg/mm²) through the thickness of the PTFE membrane, wherein the PTFE membrane is free of a coating.

Fujimoto et al. merely teaches coating the pores of a membrane with a hydrophilic fluorine-containing copolymer (e.g., Abstract), and Kawai et al. merely teaches “rendering the fine pores hydrophilic” and depositing various wetting agents on the membrane (e.g., col. 7, lines 19-24). Thus the thickness and bulk of the membranes defined by the first and second surfaces of Fujimoto et al. and Kawai et al. are not modified, and these membranes do not have a CWST “of at least about 40 dynes/cm (.40 erg/mm²) through the thickness and bulk” of the microporous PTFE membrane. Moreover, since Fujimoto et al. and Kawai et al.

teach coating the membranes to provide the desired characteristics, they fail to lead one to the invention according to claim 6, reciting, *inter alia*, a membrane free of a coating.

In summary, there is nothing in the cited references that would lead one of ordinary skill in the art to the subject matter of amended claims 1 and 6. Since the independent claims are allowable for the reasons set forth above, the dependent claims are allowable as they depend from the novel and non-obvious independent claims.

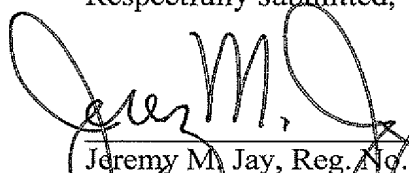
Moreover, claim 34, reciting a microporous PTFE membrane free of a coating, is additionally patentable, since, for the reasons set forth above, Fujimoto et al. and Kawai et al. emphasize the need for a coated membrane.

For the reasons set forth above, reconsideration of the rejections is respectfully requested.

Conclusion

If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,



Jeremy M. Jay, Reg. No. 33,587
LEYDIG, VOIT & MAYER
700 Thirteenth Street, N.W., Suite 300
Washington, DC 20005-3960
(202) 737-6770 (telephone)
(202) 737-6776 (facsimile)

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